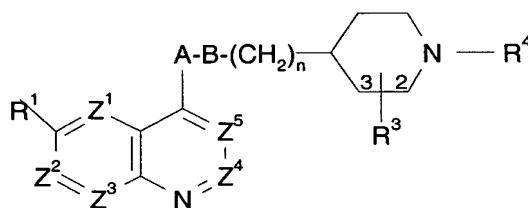


Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (Currently Amended). A method of treatment of bacterial infections caused by S.aureus, E.faecalis, M.catarrhalis, or S.pneumoniae in mammals, which method comprises the administration to a mammal in need of such treatment of an effective amount of a compound of formula (I) or a pharmaceutically acceptable derivative thereof:



(I)

wherein:

one of Z¹, Z², Z³, Z⁴ and Z⁵ is N or CR^{1a} and the remainder are CH;

R¹ is selected from hydroxy; (C₁₋₆) alkoxy optionally substituted by (C₁₋₆)alkoxy, amino, piperidyl, guanidino or amidino optionally N-substituted by one or two (C₁₋₆)alkyl, acyl or (C₁₋₆)alkylsulphonyl groups, NH₂CO, hydroxy, thiol, (C₁₋₆)alkylthio, heterocyclylthio, heterocyclloxy, arylthio, aryloxy, acylthio, acyloxy or (C₁₋₆)alkylsulphonyloxy; (C₁₋₆)alkoxy-substituted (C₁₋₆)alkyl; halogen; (C₁₋₆)alkyl; (C₁₋₆)alkylthio; trifluoromethyl; nitro; azido; acyl; acyloxy; acylthio; (C₁₋₆)alkylsulphonyl; (C₁₋₆)alkylsulphoxide; arylsulphonyl; arylsulphoxide or an amino, piperidyl, guanidino or amidino group optionally N-substituted by one or two (C₁₋₆)alkyl, acyl or (C₁₋₆)alkylsulphonyl groups, or when one of Z¹, Z², Z³, Z⁴ and Z⁵ is N, R¹ may instead be hydrogen;

R^{1a} is selected from hydrogen and the groups listed above for R¹;

R³ is in the 2- or 3-position and is:

carboxy; (C₁₋₆)alkoxycarbonyl; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C₁₋₆)alkyl, hydroxy(C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkylsulphonyl, trifluoromethylsulphonyl, (C₁₋₆)alkenylsulphonyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl or (C₂₋₆)alkenylcarbonyl and optionally further substituted by (C₁₋₆)alkyl, hydroxy(C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl or (C₂₋₆)alkenyl; cyano; tetrazolyl; 2-oxo-oxazolidinyl optionally substituted by R¹⁰; 3-hydroxy-3-cyclobutene-1,2-dione-4-yl; 2,4-thiazolidinedione-5-yl; tetrazol-5-ylaminocarbonyl; 1,2,4-triazol-5-yl optionally substituted by R¹⁰; or 5-oxo-1,2,4-oxadiazol-3-yl; or

R³ is in the 2- or 3-position and is (C₁₋₄)alkyl or ethenyl substituted with any of the groups listed above for R³ and 0 to 2 groups R¹² independently selected from:

thiol; halogen; (C₁₋₆)alkylthio; trifluoromethyl; azido; (C₁₋₆)alkoxycarbonyl; (C₁₋₆)alkylcarbonyl; (C₂₋₆)alkenyloxycarbonyl; (C₂₋₆)alkenylcarbonyl; hydroxy optionally substituted by (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl, (C₂₋₆)alkenylcarbonyl or aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkylcarbonyl or (C₂₋₆)alkenylcarbonyl; amino optionally mono- or disubstituted by (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl, (C₂₋₆)alkenylcarbonyl, (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkylsulphonyl, (C₂₋₆)alkenylsulphonyl or aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl or (C₂₋₆)alkenyl; aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl, hydroxy(C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl or (C₂₋₆)alkenylcarbonyl and optionally further substituted by (C₁₋₆)alkyl, hydroxy(C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl or (C₂₋₆)alkenyl; oxo; (C₁₋₆)alkylsulphonyl; (C₂₋₆)alkenylsulphonyl; or (C₁₋₆)aminosulphonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl or (C₂₋₆)alkenyl; provided that when R³ is disubstituted with hydroxy or amino and carboxy containing substituents these may optionally together form a cyclic ester or amide linkage, respectively;

and provided that R³ is other than (C₁₋₄)alkyl or ethenyl substituted by (C₁₋₆)alkoxycarbonyl or aminocarbonyl optionally substituted by (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl or

(C₂₋₆)alkenylcarbonyl and optionally further substituted by (C₁₋₆)alkyl, hydroxy(C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl or (C₂₋₆)alkenyl and 0 to 2 groups R¹²;

wherein R¹⁰ is selected from (C₁₋₄)alkyl; (C₂₋₄)alkenyl; aryl; a group R¹² as defined above; carboxy; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkylsulphonyl, trifluoromethylsulphonyl, (C₁₋₆)alkenylsulphonyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl or (C₂₋₆)alkenylcarbonyl and optionally further substituted by (C₁₋₆)alkyl or (C₂₋₆)alkenyl; cyano; or tetrazolyl;

R⁴ is a group -CH₂-R⁵ in which R⁵ is selected from:

(C₃₋₁₂)alkyl; hydroxy(C₃₋₁₂)alkyl; (C₁₋₁₂)alkoxy(C₃₋₁₂)alkyl; (C₁₋₁₂)alkanoyloxy(C₃₋₁₂)alkyl; (C₃₋₆)cycloalkyl(C₃₋₁₂)alkyl; hydroxy-, (C₁₋₁₂)alkoxy- or (C₁₋₁₂)alkanoyloxy-(C₃₋₆)cycloalkyl(C₃₋₁₂)alkyl; cyano(C₃₋₁₂)alkyl; (C₂₋₁₂)alkenyl; (C₂₋₁₂)alkynyl; tetrahydrofuryl; mono- or di-(C₁₋₁₂)alkylamino(C₃₋₁₂)alkyl; acylamino(C₃₋₁₂)alkyl; (C₁₋₁₂)alkyl- or acyl-aminocarbonyl(C₃₋₁₂)alkyl; mono- or di- (C₁₋₁₂)alkylamino(hydroxy) (C₃₋₁₂)alkyl; optionally substituted phenyl(C₁₋₂)alkyl, phenoxy(C₁₋₂)alkyl or phenyl(hydroxy)(C₁₋₂)alkyl; optionally substituted diphenyl(C₁₋₂)alkyl; optionally substituted phenyl(C₂₋₃)alkenyl; optionally substituted benzoyl or benzoylmethyl; optionally substituted heteroaryl(C₁₋₂)alkyl; and optionally substituted heteroaroyl or heteroaroylmethyl;

n is 0, 1 or 2;

either A-B is NHC(O)NH or NHC(O)O, or

A is NR¹¹, O, S(O)_x or CR⁶R⁷ and B is NR¹¹, O, S(O)_x or CR⁸R⁹ where x is 0, 1 or 2 and wherein:

each of R⁶ and R⁷ R⁸ and R⁹ is independently selected from: H; thiol; (C₁₋₆)alkylthio; halo; trifluoromethyl; azido; (C₁₋₆)alkyl; (C₂₋₆)alkenyl; (C₁₋₆)alkoxycarbonyl; (C₁₋₆)alkylcarbonyl; (C₂₋₆)alkenyloxycarbonyl; (C₂₋₆)alkenylcarbonyl; hydroxy, amino or aminocarbonyl optionally substituted as for corresponding substituents in R³; (C₁₋₆)alkylsulphonyl; (C₂₋₆)alkenylsulphonyl; or (C₁₋₆)aminosulphonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl or (C₁₋₆)alkenyl; or R⁶ and R⁸ together represent a bond and R⁷ and R⁹ are as above defined;

or R⁶ and R⁸ together represent -O- and R⁷ and R⁹ are both hydrogen;
or R⁶ and R⁷ or R⁸ and R⁹ together represent oxo;
and each R¹¹ is independently H, trifluoromethyl, (C₁₋₆)alkyl, (C₁₋₆)alkenyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₁₋₆)alkenyloxycarbonyl, (C₂₋₆)alkenylcarbonyl, (C₁₋₆)alkyl or (C₁₋₆)alkenyl and optionally further substituted by (C₁₋₆)alkyl or (C₁₋₆)alkenyl;
provided that A and B cannot both be selected from NR¹¹, O and S(O)_x and when one of A and B is CO the other is not CO, O or S(O)_x.

Claims 2-11 (Cancelled).

12. (Original) A pharmaceutical composition for use in the treatment of bacterial infections in mammals comprising a compound of formula (I) as defined in claim 1, or a pharmaceutically acceptable derivative thereof, and a pharmaceutically acceptable carrier.

13. (Cancelled)

14. (Currently Amended). A method according to claim 1 which comprises administering a compound of ~~formula (IA)~~ formula (I) of claim 1 or a pharmaceutically acceptable derivative thereof ~~which is a compound of formula (I) as defined in claim 1~~ wherein R³ is other than (C₁₋₆)alkoxycarbonyl; optionally substituted aminocarbonyl, CN or COOH.

15. (Previously Presented). A method according to claim 1 which comprises administering a compound in which Z⁵ is CH or N and Z¹-Z⁴ are each CH.

16. (Currently Amended). A method according to claim 1 which ~~comprises~~ comprises administering a compound in which R¹ is methoxy, amino- or guanidino-(C₃₋₅)alkyloxy, guanidino(C₃₋₅)alkyloxy, piperidyl(C₃₋₅)alkyloxy, nitro or fluoro, and R^{1a} is hydrogen.

17. (Currently Amended). A method according to claim 1 which ~~comprises~~ comprises administering a compound in which R³ is in the 3-position and is CH₂CO₂H or 2-oxo-oxazolidinyl.

18. (Currently Amended). A method according to claim 1 which ~~comprises~~ comprises administering a compound in which $AB(CH_2)_n$ is $(CH_2)_3$.

19. (Currently Amended). A method according to claim 1 which ~~comprises~~ comprises administering a compound in which R^4 is (C_{5-10}) alkyl, unsubstituted phenyl (C_{2-3}) alkyl or unsubstituted phenyl (C_{3-4}) alkenyl.

20. (Currently Amended). A method according to claim 1 which ~~comprises~~ comprises administering a compound in which Z^5 is CH or N and Z^1-Z^4 are each CH; R^1 is methoxy, amino- or guanidino- (C_{3-5}) alkyloxy, guanidino (C_{3-5}) alkyloxy, piperidyl (C_{3-5}) alkyloxy, nitro or fluoro, and R^{1a} is hydrogen; R^3 is in the 3-position and is CH_2CO_2H or 2-oxo-oxazolidinyl; $AB(CH_2)_n$ is $(CH_2)_3$; and R^4 is (C_{5-10}) alkyl, unsubstituted phenyl (C_{2-3}) alkyl or unsubstituted phenyl (C_{3-4}) alkenyl.

21. (Currently Amended). A method according to claim 1 which ~~comprises~~ comprises administering a compound which is:

[3R, 4R]-1-Heptyl-3-(1-(R or S)-hydroxy-2-cyanoethyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;

[3R, 4R]-1-Heptyl-3-(2-(R or S)-oxo-oxazolidin-5-yl)-4-[3-(6-methoxyquinolin-4-yl)propyl] piperidine;

[3R, 4R]-1-Heptyl-3-(2-cyanoethyl)-4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;

[3R, 4R]-1-Heptyl-3-(3-carboxyethyl)-4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;

[3R, 4R]-1-Heptyl-3-carboxy-4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;

[3R, 4R]-1-Heptyl-3-(carboxymethyl)-4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;

[3R, 4R]-1-Heptyl-3-(1-(R or S)-hydroxy-2-carboxyethyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;

[3R, 4R]-1-Heptyl-3-(2-(E)-carboxyethenyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;

~~N-(cis-3-(R/S)-Ethoxycarbonyl-1-heptyl-4-(S/R)-piperidyl)-N'-(6-methoxyquinolin-4-yl)urea;~~

~~N-(cis-3-(R/S)-Ethoxycarbonyl-1-heptyl-4-(S/R)-piperidyl)-N'-(6-methoxy-[1,5]-naphthyridin-4-yl)urea;~~

~~N-(cis-3-(R/S)-Aminocarbonyl-1-heptyl-4-(S/R)-piperidyl)-N'-(6-methoxy-[1,5]-naphthyridin-4-yl)urea;~~

[3R, 4R]-1-Heptyl-4-[3-(R/S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]-3-(2-(R or S)-oxo-oxazolidin-5-yl)-piperidine;

[3R, 4R]-1-Heptyl-3-cyanomethyl-4-[3-(R/S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;

[3R, 4R]-1-Heptyl-3-cyanomethyl-4-(2-(R)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl)piperidine;

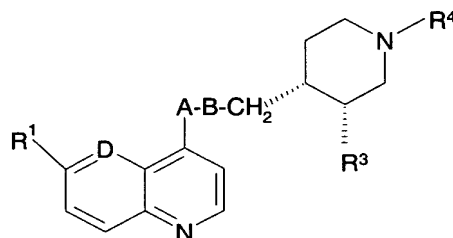
N-(cis-3-(R/S)-Carboxy-1-heptyl-4-(S/R)-piperidyl)-N'-(6-methoxyquinolin-4-yl)urea;

cis-3-(R/S)-Ethoxycarbonyl-1-heptyl-4-(S/R)-(6-methoxyquinolin-4-yl)aminocarbonyl-oxypiperidine;

cis-3-(R/S)-Carboxy-1-heptyl-4-(S/R)-(6-methoxyquinolin-4-yl)aminocarbonyl-oxypiperidine;

a compound of Examples 18 to -36 from Table 1 as depicted below:

TABLE 1



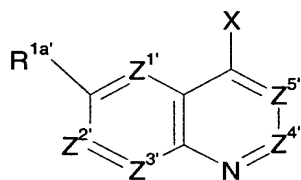
Example	A-B	n	R ¹	D	R ₃	R ₄
<u>18</u>	<u>CH₂CH₂</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH₂CN</u>	<u>n-heptyl</u>
<u>19</u>	<u>CH(NH₂)CH</u> <u>2</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH₂CN</u>	<u>n-heptyl</u>
<u>20</u>	<u>CH₂CH₂</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH₂COOH</u>	<u>5-methylhexyl</u>
<u>21</u>	<u>CH(N₃)CH₂</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH₂CN</u>	<u>n-heptyl</u>
<u>22</u>	<u>CH₂CH₂</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CONH₂</u>	<u>n-heptyl</u>
<u>23</u>	<u>CH₂CH₂</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH₂COOH</u>	<u>n-hexyl</u>
<u>24</u>	<u>CO.CH₂</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH₂CN</u>	<u>n-heptyl</u>
<u>25</u>	<u>CH₂CH₂</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH₂CH(CH₃)COOH</u>	<u>n-heptyl</u>
<u>26</u>	<u>CH₂CH₂</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH₂COOH</u>	<u>cinnamyl</u>
<u>27</u>	<u>CH₂CH₂</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH₂COOH</u>	<u>3-phenylpropyl</u>
<u>28</u>	<u>CH(OH)CH₂</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH₂COOH</u>	<u>n-heptyl</u>
<u>29</u>	<u>CH(NH₂)CH</u> <u>2</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH₂COOH</u>	<u>n-heptyl</u>

30	<u>CH(OH)CH₂</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH(OH)COOH</u>	<u>n-heptyl</u>
31	<u>CO.CH₂</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH(OH)COOH</u>	<u>n-heptyl</u>
32	<u>CH₂CH(OH)</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH₂COOH</u>	<u>n-heptyl</u>
33	<u>NHCO</u>	<u>1</u>	<u>CH₃O</u>	<u>N</u>	<u>CH₂COOH</u>	<u>n-heptyl</u>
34	<u>CH₂CH₂</u>	<u>1</u>	<u>OH</u>	<u>C</u>	<u>CH₂COOH</u>	<u>n-heptyl</u>
35	<u>NHCOO</u>	<u>0</u>	<u>CH₃O</u>	<u>C</u>	<u>CONH₂</u>	<u>n-heptyl</u>
36	<u>oxirane</u>	<u>1</u>	<u>CH₃O</u>	<u>C</u>	<u>CH₂CN</u>	<u>n-heptyl</u>

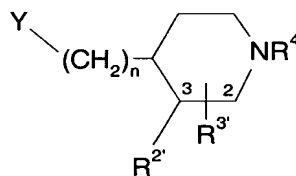
or a pharmaceutically acceptable derivative of any of the foregoing compounds.

22. (Previously Presented). A process for preparing compounds of formula (IA) as or a pharmaceutically acceptable derivative thereof, which is a compound of formula (I) as defined in claim 1, wherein R³ is other than (C₁₋₆)alkoxycarbonyl; optionally substituted aminocarbonyl, CN or COOH,_T or a pharmaceutically acceptable ester thereof, which process comprises:

(a) reacting a compound of formula (IV) with a compound of formula (V):



(IV)



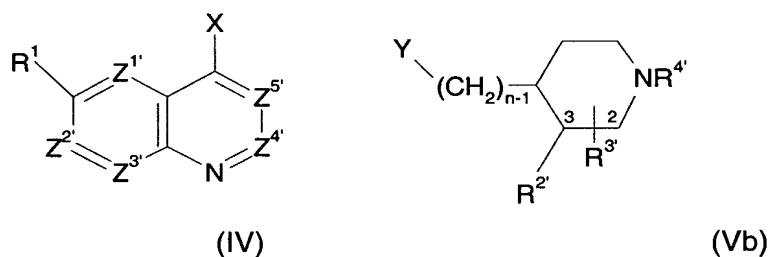
(V)

wherein Z¹, Z², Z³, Z⁴ and Z⁵, m, n, R¹, R², R³ and R⁴ are as defined in formula (I), and X and Y may be the following combinations:

- (i) X is M and Y is CH₂CO₂R^X
- (ii) X is CO₂R^Y and Y is CH₂CO₂R^X
- (iii) one of X and Y is CH=SPh₂ and the other is CHO
- (iv) X is CH₃ and Y is CHO
- (v) X is CH₃ and Y is CO₂R^X
- (vi) X is CH₂CO₂R^Y and Y is CO₂R^X
- (vii) X is CH=PR^Z₃ and Y is CHO
- (viii) X is CHO and Y is CH=PR^Z₃
- (ix) X is halogen and Y is CH=CH₂
- (x) one of X and Y is COW and the other is NHR¹¹

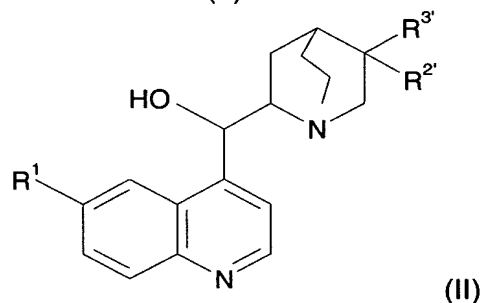
- (xi) one of X and Y is $(CH_2)_p-V$ and the other is $(CH_2)_qNHR^{11'}$, $(CH_2)_qOH$, $(CH_2)_qSH$ or $(CH_2)_qSCOR^X$ where $p+q=1$
 (xii) one of X and Y is CHO and the other is $NHR^{11'}$
 (xiii) one of X and Y is OH and the other is $-CH=N_2$
 in which V and W are leaving groups, R^X and R^Y are $(C_1-6)alkyl$ and R^Z is aryl or $(C_1-6)alkyl$, or
 (xiv) X is NCO, Y is OH or NH_2 ;

(b) reacting a compound of formula (IV) with a compound of formula (Vb):



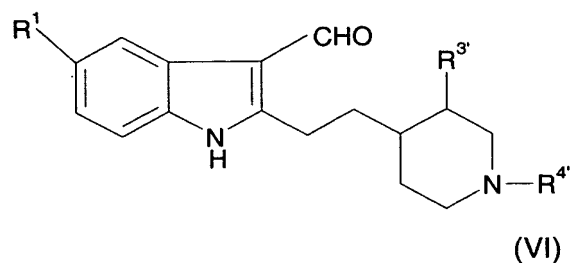
wherein Z^1 , Z^2 , Z^3 , Z^4 and Z^5 , m, n, R^1 , R^2 , R^3 and R^4 are as defined in formula (I), X is $CH_2NHR^{11'}$ and Y is CHO or COW or X is CH_2OH and Y is $-CH=N_2$;

(c) rearranging a compound of formula (II):



to give a compound of formula (III) which is a compound of formula (I) where Z^1-Z^5 are CH, n is 1, A-B is $COCH_2$ and R^2 is H, or a compound of formula (VII) which is a compound of formula (I) where n is 1, A-B is $CHOHCH_2$ or CH_2CHOH and R^2 is H; or

(d) photooxygenating a compound of formula (VI):



in which Z^{1'}-Z^{5'} are Z¹-Z⁵ or groups convertible thereto, R^{11'}, R^{1'}, R^{2'}, R^{3'} and R^{4'} are R¹¹, R¹, R², R³ and R⁴ or groups convertible thereto, and thereafter optionally or as necessary converting R^{11'}, R^{1'}, R^{2'}, R^{3'} and R^{4'} to R¹¹, R¹, R², R³ and R⁴, converting Z^{1'}-Z^{5'} to Z¹-Z⁵, converting A-B to other A-B, interconverting R¹¹, R¹, R², R³ and/or R⁴ and forming a pharmaceutically acceptable derivative thereof.

23. (Currently Amended). A pharmaceutical composition comprising a compound of ~~formula (IA)~~ formula (I) of claim 1, or a pharmaceutically acceptable derivative thereof ~~which is a compound of formula (I) as defined in claim 1~~ wherein R³ is other than (C₁₋₆)alkoxycarbonyl; optionally substituted aminocarbonyl, CN or COOH, or a pharmaceutically acceptable derivative thereof, and a pharmaceutically acceptable carrier.

24. (Cancelled).